

Fenestra Fenmark Windows, as shown in this section of the Fenestra Blue Book, are designed for all types of monumental, educational and public buildings. Fenestra Fencraft and Fenwrought Casements are designed for residences and apartments and are shown in separate sections.

Fenmark, Fencraft and Fenwrought Windows represent the latest development in the steel window maker's art and comprise a series particularly suitable for all buildings of the better class, whatever their architectural treatment.

The Fenestra Blue Book, for Industrial Buildings, covers factory and commercial types, hangar doors and mechanical operating devices.

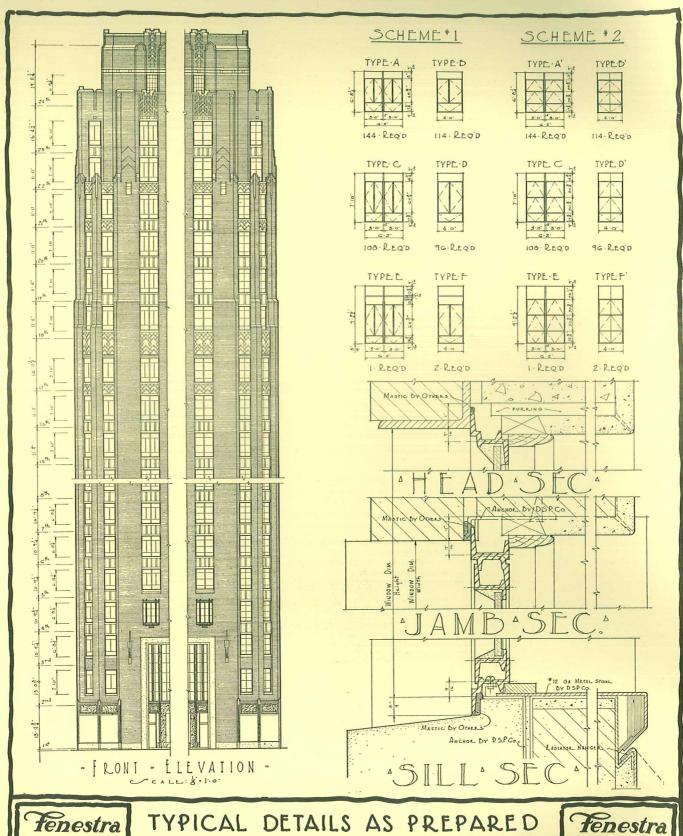
FENESTRA ARCHITECTURAL SERVICE



o ASSIST the architect in visualizing Fenestra Fenmark Windows as they actually will appear in the building he is designing, Detroit Steel Products Company maintains an Architectural Service Department with architects trained in the correct use of Fenestra in monumental structures.

Without charge or obligation to you, this department will be glad to work up drawings

showing exactly how Fenmark Windows may be detailed into the type of construction you are



Tenestra 1930

BY ARCHITECTURAL SERVICE DEPT.

1930

using and made to harmonize with your own architectural design.

The plate on the preceding page gives an idea of the work of this department.

It has been our privilege to work with some of the largest architects in the country with very gratifying results. Sometimes we are able to indicate a saving through the use of standard types. Almost always there are problems of appearance, arrangement of ventilators, amount of light or ventilation, on which our knowledge of steel window application to architectural requirements is helpful.

The men in the Architectural Service Department all know how to use a pencil. They talk an architect's own language. They are not salesmen. Their service is available for the asking. A word to your local Fenestra representative or to the Home Office at Detroit will enlist their immediate co-operation.

SOME OUTSTANDING ADVANTAGES

Fenestra Fenmark Windows are the latest development of the oldest and largest steel window manufacturer in America.

They are pleasingly designed for simplicity, continuity and restraint and arranged in a variety of standard types and sizes which harmonize with all types of monumental and public

buildings whatever their design or construction.

They lend themselves readily to combination with metal stools and with fully concealed, semi-concealed or unconcealed radiators.

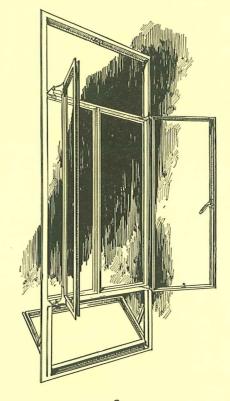
The vertical lines, prominent in both Fenmark and Screened Fenmark types, are particularly well adapted to the present monumental, stepped back designs.

Built of solid rolled steel sections of casement type, these windows are rugged, durable, permanent. All sections are machine straightened and tested to insure plumb, true and accurate assembly. Solid rolled steel construction permits the use of narrower sections, thus admitting more light in the same sized window opening or the same amount of light through a smaller sized window opening.

Swing leaves and ventilators are arranged to provide practically any amount of ventilation desired up to 100%.

All ventilators are designed with a double internal baffle and a wide, flat overlap against the frame section, insuring weathering as tight as a wood window, weatherstripped. Cam action locking devices clamp the swing leaves and ventilators tight against the frame.

Fenmark and Screened Fenmark types have upper leaves swinging out on "cleaning" friction hinges, while the sill



ventilator slides up from the bottom and tilts in from the top. Projected Fenmark types have upper ventilators sliding down from the top and swinging out at the bottom and sill ventilator sliding up from the bottom while tilting in at the top, thus providing weather protection, even when open.

Open-in ventilators at the sill make separate wind guards unnecessary; provide ventilation without direct draft.

All windows equipped with U. S. government specification solid bronze hardware with coinage or oxidized finish obtained without the use of chemicals or plating.

All windows glazed on the outside without the use of glazing beads, thus insuring a casement finish inside.

Every inch of glass area is easily washed both inside and outside, from a position inside the building. Cleaning costs are minimized. Hazards of outside washing eliminated.

Projected open-out ventilators are equipped with automatic spring stops, insuring uniform alignment when ventilators are fully open.

Installation is simple and trouble free, in accordance with the best building practice.

Shading is easily and effectively accomplished; holes being provided in the jamb section near the head to accommodate any standard shade bracket.

Standardized in production, and shipped complete with sash already fitted, hung and primed, Fenmark Windows reduce first costs. No weights, cord or hardware or weatherstrips to buy afterward.

Maintenance costs are reduced, since steel windows do not warp, swell, shrink or stick; always operate with uniform ease and smoothness.

Screened Fenmark Windows are particularly adaptable to hospitals, and are also used in dining rooms, restaurants, clubs—in short in any public buildings where the exclusion of insects is desirable.

Each Screened Fenmark Window includes steel or bronze framed, bronze mesh screens designed to fit flat against frame. Screens for upper leaves are located on the inside; screen for sill ventilator, on the outside.

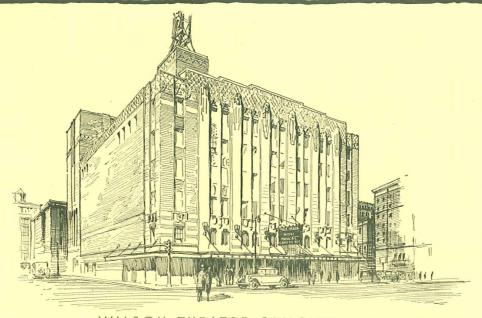
All screens are easily and quickly set in place or removed from within the room.

All swing leaves are operated (opened, closed and securely locked) entirely without touching the screen.

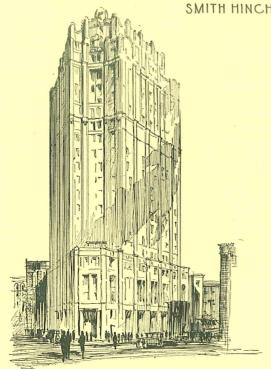
Only the actual ventilating portion of each window is screened. Thus a considerable saving in screen cost is effected as compared to screening the entire opening.

It is unnecessary to remove screens for winter storage as they are practically invisible and in no way inconvenient if left in place the year round.

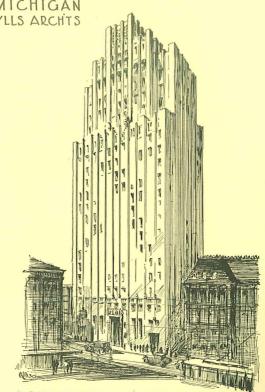




WILSON THEATRE BUILDING DETROIT MICHIGAN SMITH HINCHMAN & GRYLLS ARCHTS



WATER BOARD BUILDING DETROIT MICHIGAN LOUIS KAMPER ARCHITECT



CONTINENTAL LIFE INS. CO. BUILDING ST. LOUIS MISSOURI WM B ITTNER ARCHITECT

fenestra 1930

FENMARK WINDOWS
TYPICAL INSTALLATIONS

Tenestra 1930

FENESTRA "FENMARK" WINDOWS

SPECIFICATIONS

1 GENERAL

1a All windows shall be Fenestra "Fenmark" as manufactured by Detroit Steel Products Company.

2 MATERIAL AND CONSTRUCTION

- 2a Frame sections shall have a minimum depth of 1½" from front to back and shall be designed with equal or unequal legs as specified. Frame and ventilator sections shall be of hot rolled, solid steel, providing continuous, two-point, flat weathering contact between ventilators and frames.
- 2b All sections shall be re-rolled cold to make them true and straight and shall be individually electrically tested, for straightness.
- 2c Frames shall be mortise and tenon, air hammer riveted and electrically welded at all corners. Swing leaves shall be mitered at all corners and electrically welded. All welds shall be ground to a smooth finish.

(Mullions or transom bars are provided between adjacent units where specified.)

(Heavy, electro-galvanized steel head drip is supplied above all swing leaves.)

(Sill and jamb anchor clips with bolts for attachment to frame are supplied where required.)

3 ATTACHED HARDWARE

- 3a All side hung swing leaves shall open out on two heavy friction (cleaning) hinges of solid rolled, sherardized steel with heavy re-entrant angle fillets. Each hinge shall be equipped with two friction washers. Washers and hinge members shall be held by lock washers and bronze studs with acorn nuts, so that friction may be increased or decreased by adjusting the nut.
- 3b Projecting open-in ventilators shall be supported by two heavy, spring steel arms on steel brackets, double riveted to the vertical members. Each ventilator shall be hung on two brass, sliding U-shaped shoes riding inside the jamb sections, tension being retained by two coil springs completely enclosed in brass housings. Ventilators to tilt in at the top while sliding up from the bottom.

(In projecting open-out ventilators, the action is reversed.)

- 3c An ornamental locking handle bracket of solid rolled steel, shall be electrically welded to the stile of each open-out swing leaf.
- 3d Brass strikes and wrought steel keepers shall be supplied attached to the window frame as required.

4 DETACHED HARDWARE

4a All locking handles shall be U. S. Government specification solid bronze, of ornamental design and coinage finish, obtained without the use of plating or chemicals and equipped with friction springs, (or) same equipped with friction clevices.

(Swing leaf handles 1119 or 699. Sill ventilator handles 1122 or 1071. Special hardware at extra cost.)

4b Swing leaf operating hardware shall consist of a finger pull solidly attached to the sill of each swing leaf (used with friction hinges when specified) (or) solid bronze thumb screw operator (with non-friction hinges).

(Finger pull 1130 or 1230. Thumb screw operator 1101 or 203.)

4c Projected open-out ventilator hardware shall consist of a solid bronze pole ring at the head of the ventilator and a solid bronze locking handle equipped for pole operation at the sill.

(Pole ring 151. Handle 1214 or 914.)

4d Provide solid bronze handle for all projecting open-out transoms and a solid bronze automatic spring catch for all projecting open-in transoms.

(Transom handles 733 or 914. Spring catch 739.)

5 PAINTING

5a All windows shall be given one dip coat of gray lead and oil paint at the factory.

(Provide for an additional coat of paint by the painting contractor after erection of windows and before glazing. Final painting should be deferred until three weeks after glazing to permit putty to set. Where desired, Fenestra Construction Co. will do field painting under a separate contract.)

6 ERECTION

6a The window manufacturer shall erect all windows, caulk with mastic and form a weather-tight union between window frames and mullions or transom bars. Caulking, at head or jambs, where windows abut the building construction, shall be supplied and applied by others, after erection. Sill caulking to be supplied by window manufacturer.

(Include in the masonry specifications that all masonry openings shall be constructed in accordance with Fenestra installation details so that the windows may be installed after masonry is completed. Also include in the masonry specifications that all mortar grouting, pointing, etc., shall be done by the mason contractor after the windows have been erected.)

7 GLASS AND GLAZING

7a All glass shall be bed puttied and face puttied, and further secured by copper-plated spring glazing clips supplied by the window manufacturer.

(Putty should be a high grade, quick-setting steel window putty. Ordinary wood window putty cannot be used. Glass should be \(\frac{1}{8} \) or \(\frac{1}{4} \) plate. Single or double strength glass is not recommended. Glass and glazing labor supplied by Fenestra Construction Co. if desired, under a separate contract.)

8 SHADING

(All shades must be located at least 2½" from the inside face of the window to clear hardware. Each Fenmark window is drilled at both jambs near the head for the attachment of standard shade brackets.)

9 METAL STOOLS, SUBFRAMES

(Metal stools and rolled steel or pressed metal subframes can be supplied if specified. Consult nearest Fenestra office.)

PROJECTED "FENMARK" WINDOWS

SPECIFICATIONS

1 GENERAL

1a All windows shall be Fenestra Projected "Fenmark" as manufactured by Detroit Steel Products Company.

2 MATERIAL AND CONSTRUCTION

(Same as "Fenmark" windows 2a, 2b, 2c, except that head drip is unnecessary and, therefore, not supplied.)

3 ATTACHED HARDWARE

- 3a All ventilators shall be designed to slide down from the top while swinging out from the bottom (or) tilt in from the top while sliding up from the bottom. Each ventilator shall be supported by two heavy, spring steel arms, on steel brackets, double riveted to the vertical members, and shall be hung on two brass, U-shaped shoes, sliding in the jamb sections. Tension shall be retained by two coil springs, completely enclosed in brass housings.
- 3b VENTILATORS where specified shall be so designed and arranged that all glass may be washed on the outside from within the building.

(Handle brackets, strikes and keepers are the same as in "Fenmark" windows.)

3c Each open-out ventilator shall be equipped with two shouldered, alignment-control, bronze springs, riveted to the channel jambs.

(The shoulders of these springs are so designed and located as to limit the downward travel of the friction shoes and stop all open ventilators in uniform alignment of approximately 45 degrees. When it is desired to open the ventilator to a greater angle for washing, light pressure on the springs permits the friction shoes to slide past. As the ventilator returns to a closed position, the action of the springs is automatic.)

4 DETACHED HARDWARE

4a All locking handles shall be U. S. Government specification solid bronze, of ornamental design and coinage finish, obtained without the use of plating or chemicals, and shall be equipped with friction clevices.

(Open-out ventilator handles 733 or 914.) (Open-in ventilator handle 1071.)

4b VENTILATORS out of reach from the floor shall be equipped with solid bronze pole rings or spring catches except where mechanical operator is specified.

(Pole ring 151. Spring catch No. 739.)

5 PAINTING, ERECTION

(Same as "Fenmark" windows 5 and 6.)

6 GLASS, GLAZING, SHADING

(Same as "Fenmark" windows 7 and 8.)

7 SCREENS

(Screens can be supplied where specified. Consult the nearest Fenestra office.)

8 METAL STOOLS, SUBFRAMES

(Metal stools and rolled steel or pressed metal subframes can be supplied where specified. Consult the nearest Fenestra office.)

SCREENED "FENMARK" WINDOWS

SPECIFICATIONS

1 GENERAL

1a All windows shall be Fenestra Screened "Fenmark" as manufactured by the Detroit Steel Products Company.

2 MATERIAL AND CONSTRUCTION

(Same as "Fenmark" windows-2a, 2b, 2c.)

3 ATTACHED HARDWARE

3a All side hung swing leaves shall open out on two heavy (cleaning) hinges of solid rolled, sherardized steel with heavy re-entrant angle fillets. Hinge pins shall be solid bronze accurately fitted into flanged bronze bushings.

3b Projecting open-in ventilators shall be supported by two heavy, spring steel arms, on steel brackets, double riveted to the vertical members. Each ventilator shall be hung on two brass, U-shaped shoes, riding inside the jamb sections, tension being retained by two coil springs completely enclosed in brass housings. Ventilators to tilt in at the top while sliding up from the bottom.

(In projecting open-out ventilators, the action is reversed.)

3c Brass strikes and wrought steel keepers shall be supplied attached to the window frame as required. Provision for screen attachment and operator attachment shall be included.

4 DETACHED HARDWARE

- 4a Locking handles and handle brackets together with all operators shall be so designed that each swing leaf may be opened, closed and locked through the screen but without touching it. Locking handle bracket shall be ornamental in design, accommodating and entirely concealing the locking cam.
- 4b Locking handles shall be U. S. Government specification solid bronze, of ornamental design and coinage finish, obtained without the use of plating or chemicals and equipped with concealed coil springs (or) solid bronze with oxidized finish.

(Swing leaf handle 1222 or 1023. Sill ventilator handle 1122 or 1223.)

4c Each swing leaf operator shall consist of a bronze arm, bronze locking lever and bronze or alloy housing so designed as to operate through the screen but without touching it and open or close the swing leaf or hold it in any desired position.

(Swing leaf operator 1216 or 1133.)

4d Provide solid bronze operator for all projecting open-out transoms, and a solid bronze automatic spring catch for all projecting open-in transoms. (Open-out adjuster 1108. Spring catch No. 739.)

5 PAINTING, ERECTION

(Same as "Fenmark" windows 5 and 6.)

6 GLASS, GLAZING, SHADING

(Same as "Fenmark" windows 7 and 8.)

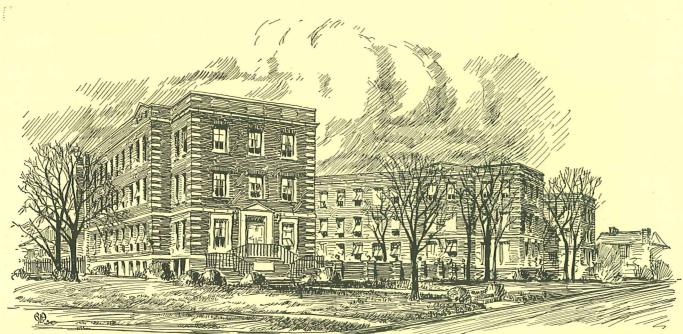
7 SCREENS

- 7a Screens for swing leaves and projected open-out transoms shall set flat against the inside of the frame, with handles and adjusters extending through the screens, so that each window may be opened, closed and locked through the screen but without touching it.
- 7b Screens for projected open-in ventilators shall set flat against a screen guide outside the frame and shall be equipped with fasteners so designed that the screens may be readily hung or removed from inside the building.
- 7c Screen frames shall be cold-rolled, rust-proof steel (or bronze) containing a reinforcing brace running the full length of the stile. Steel frames shall be painted two coats of grey lead and oil, baked on. Screen cloth shall be 16 mesh bronze wire. Each screen shall be provided with a 22-gauge steel (or bronze) escutcheon with circular hole to fit over and around the locking handle.

(Bronze frames or steel frames with bronze cap, or screens with finer than 16 mesh cloth can be supplied at slight extra cost.)

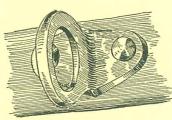
8 METAL STOOLS, SUBFRAMES

(Metal stools and rolled steel or pressed metal subframes can be supplied where specified. Consult the nearest Fenestra office.)



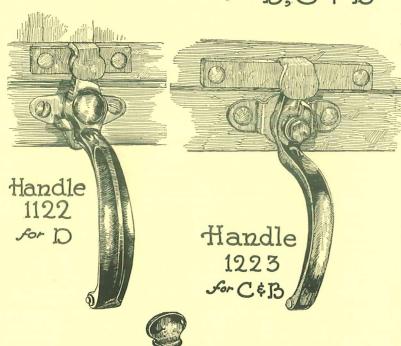
FLORENCE CRITTENTON HOSPITAL DETROIT MICHIGAN SMITH HINCHMAN & GRYLLS, ARCHITECTS





Pole Ring 151
For D, C & B









Friction Stay 1101 for D



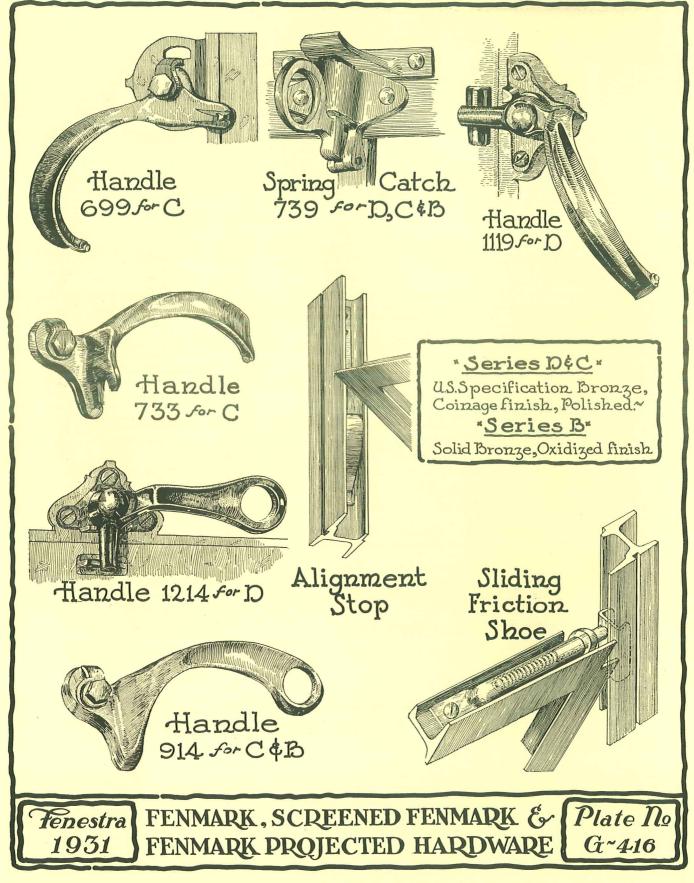
Friction Stay 203 for C&B

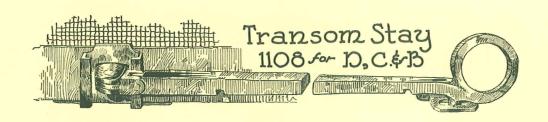


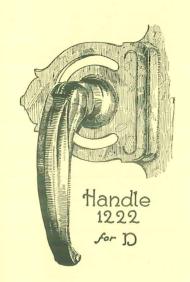
Tenestra 1931

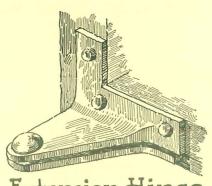
FENMARK, SCREENED FENMARK & Plate No FENMARK PROJECTED HARDWARE

G~415









Extension Hinge



* Series D&C *

U.S.Specification Bronze, Coinage finish, Polished.~

Series B

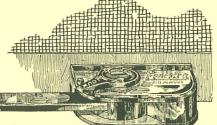
Solid Bronze, Oxidized finish



End of Operator 1133 for 13

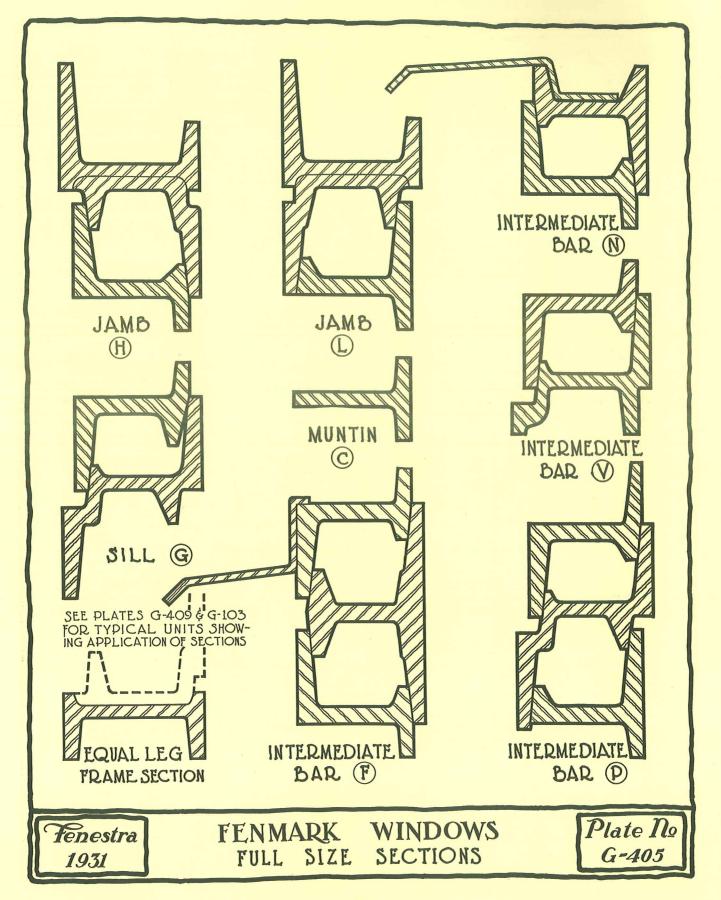


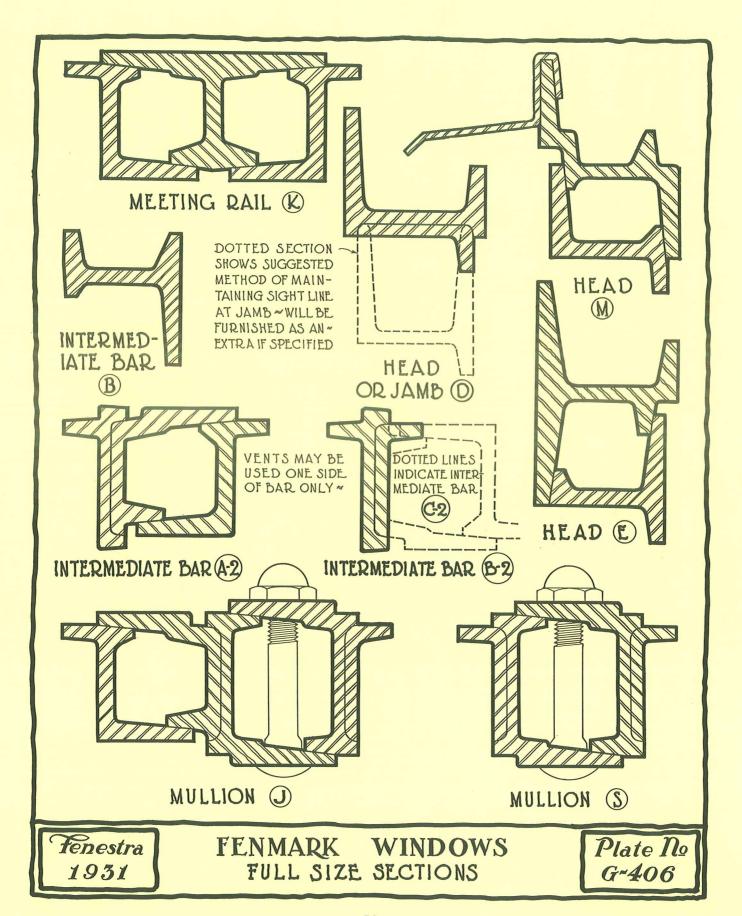
Thru-Screen Operator 1216 50-D, 1133 50-C

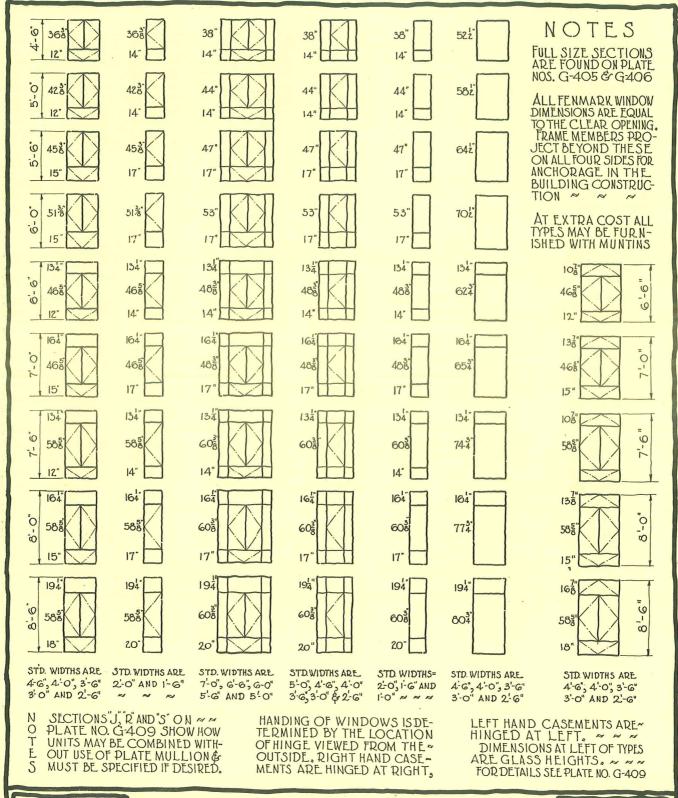


Tenestra 1931

FENMARK, SCREENED FENMARK & Plate No FENMARK PROJECTED HARDWARE

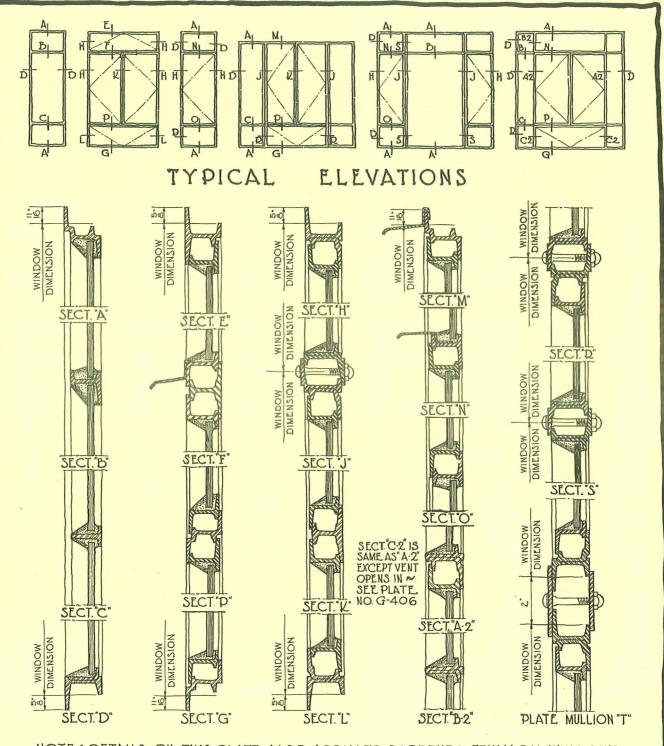






Tenestra 1931 FENMARK WINDOWS
TYPES AND SIZES

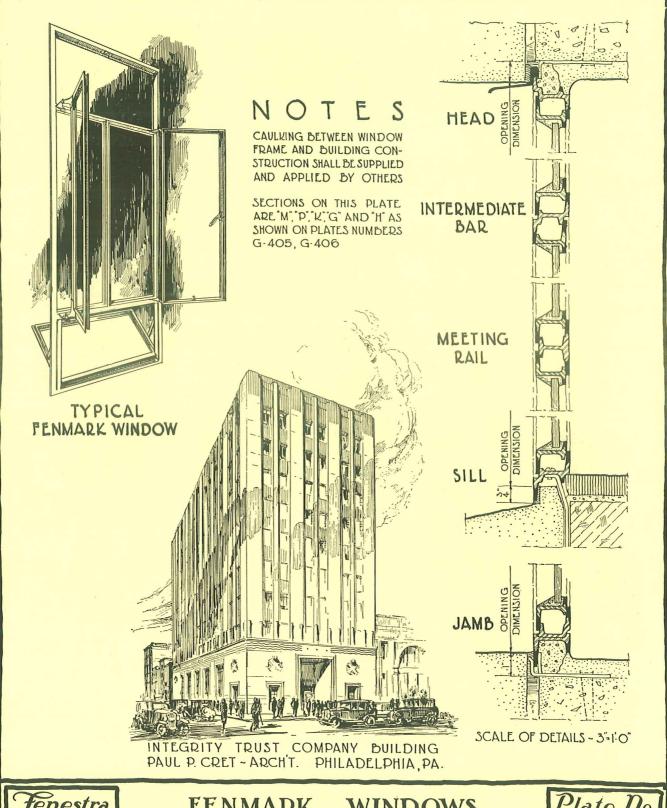
Plate No G-408



NOTE: DETAILS ON THIS PLATE ALSO APPLY TO SCREENED FENMARK WINDOWS.

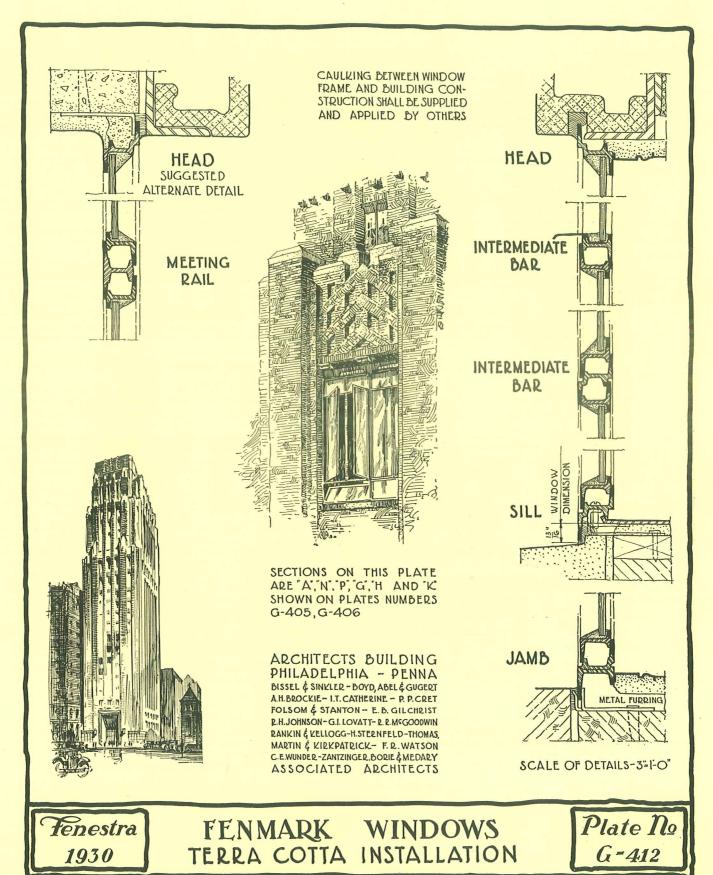
fenestra 1931 FENMARK WINDOWS
COMBINATION DETAILS

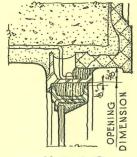
Plate No G-409



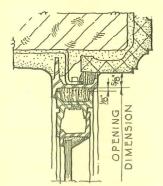
Tenestra 1931

FENMARK WINDOWS STONE INSTALLATION Plate No. G-411

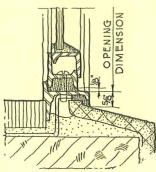




HEAD

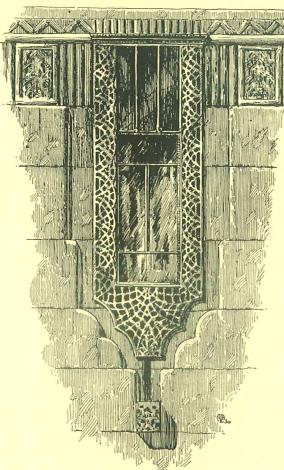


JAMB

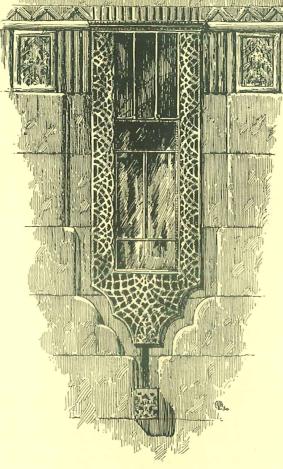


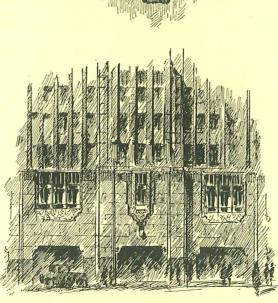
CAULKING BETWEEN WINDOW FRAME AND BUILDING CONSTRUCTION SHALL BE SUPPLIED AND APPLIED BY OTHERS

DETAILS SHOW ROLLED & PRESSED STEEL SUB-FRAMES IN CONNECTION WITH EQUAL LEG SASH FRAME SECTION



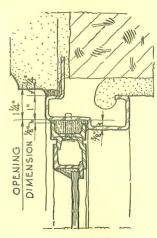
SILL



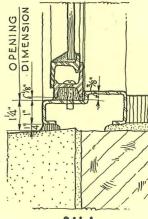


OPENING

HEAD



JAMB



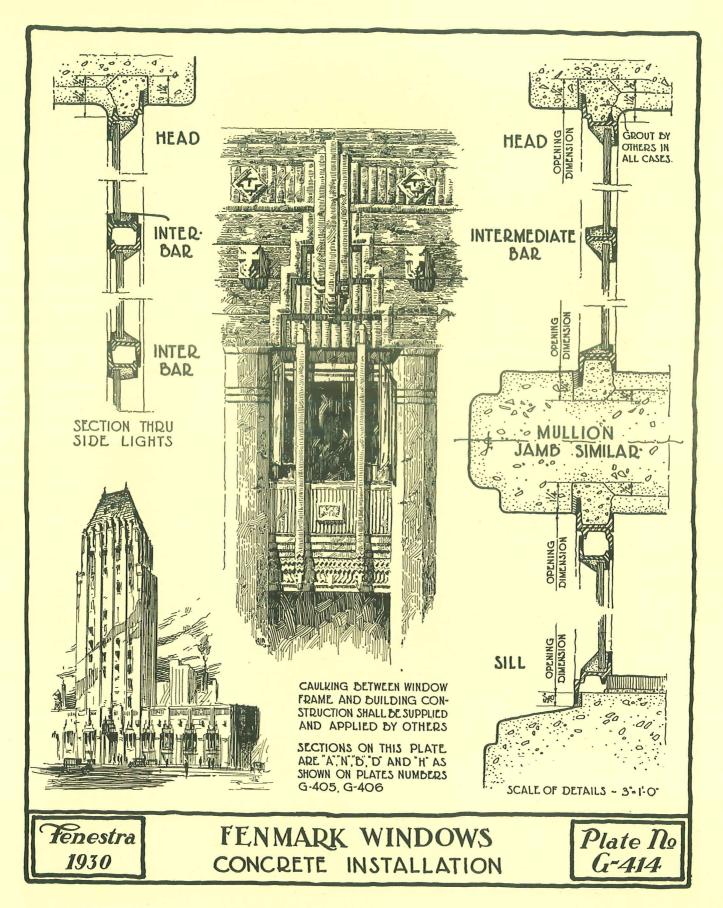
SILL

SCALE OF DETAILS - 3"= 1'-O"

enestra

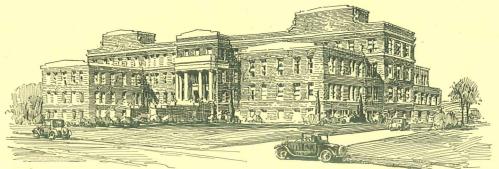
FENMARK WINDOWS FRAME INSTALLATION METAL

Plate No





MONTGOMERY HIGH SCHOOL MONTGOMERY, ALABAMA FREDERICK AUSFELD, ARCHITECT



CRIPPLED CHILDRENS HOSPITAL OKLAHOMA CITY. OKLA LAYTON HICKS & FORSYTHE ARCHITECTS.



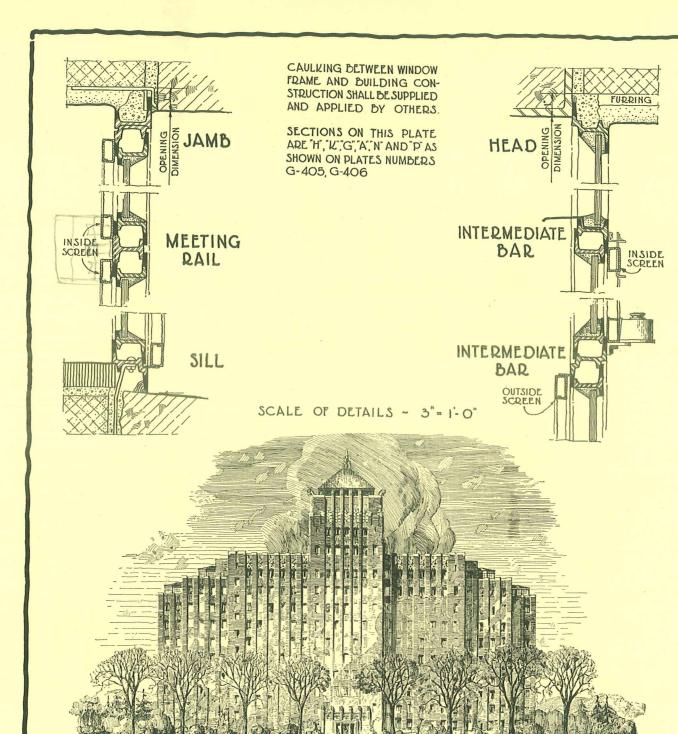
SOUTHSIDE NATIONAL BANK ST. LOUIS MO ST. LQUIS BANK & EQUIPMENT CO. ARCHITECTS



PUBLIC SERVICE BLDG. BOSTON, MASS HAROLD FIELD KELLOGG, ARCHITECT

Tenestra 1930 FENMARK WINDOWS
TYPICAL INSTALLATIONS

Tenestra 1930

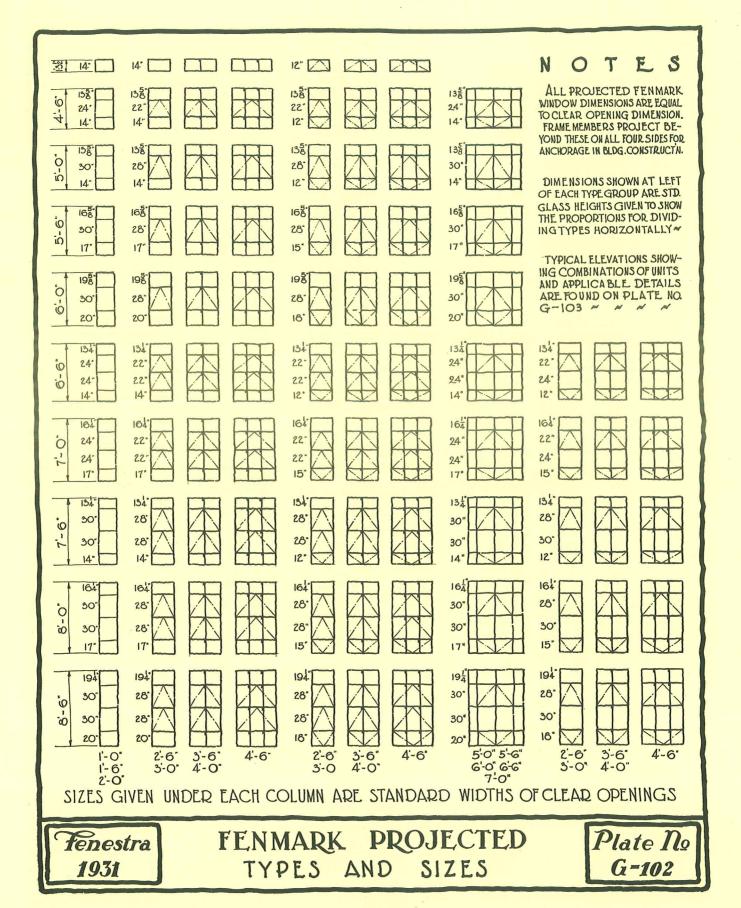


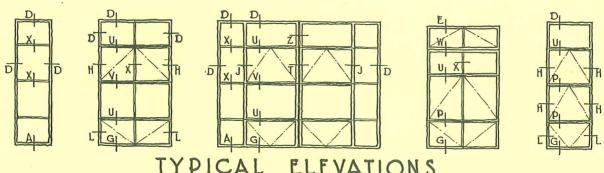
HARBORVIEW HOSPITAL KINGS COUNTY SEATTLE WASH THOMAS, GRAINGER & THOMAS - ARCHITECT'S DR. WILLIAM H. WALSH - CHICAGO - HOSPITAL CONSULTANT

Tenestra 1931 SCREENED FENMARK
TYPICAL HOSPITAL INSTALLATION

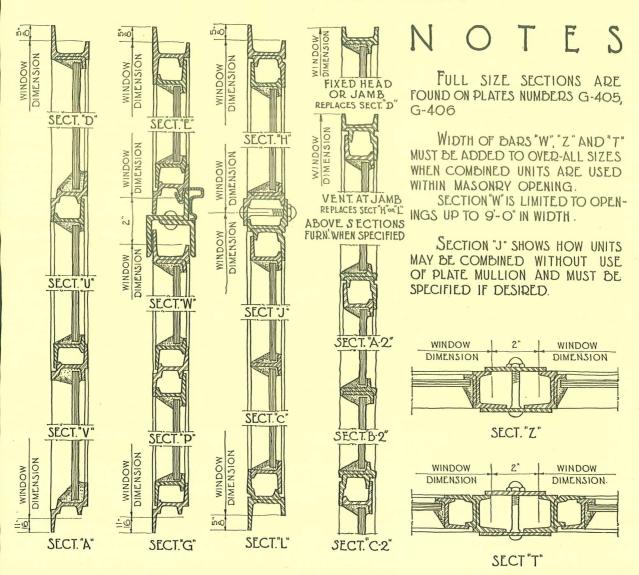
Plate No G-501

BALTIMORE OFFICE 331 N. CHARLES STREET SAM B. SMITH PHONE CALVERT 3050



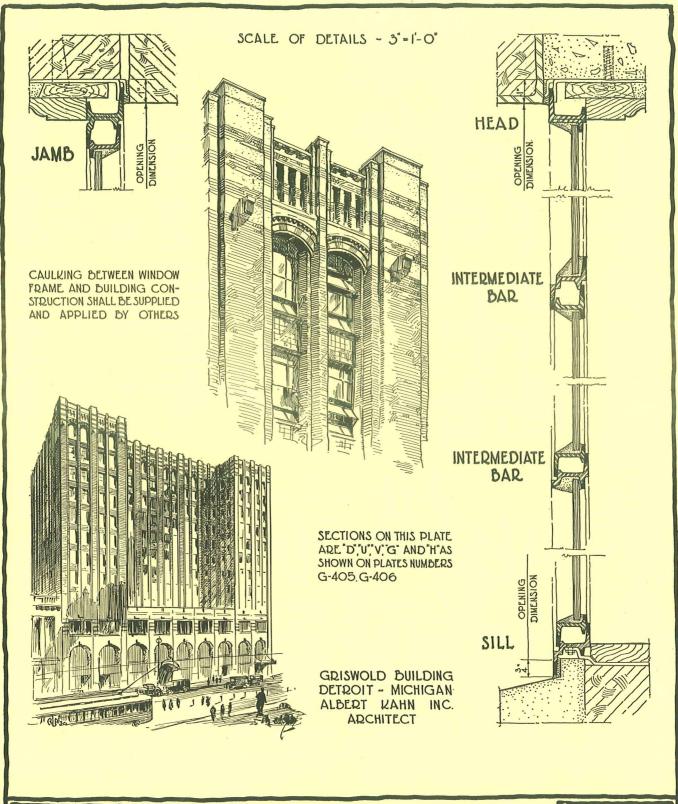


TYPICAL ELEVATIONS



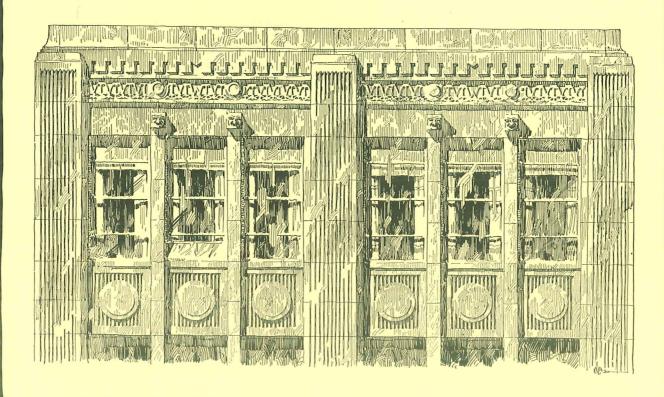
fenestra 1931

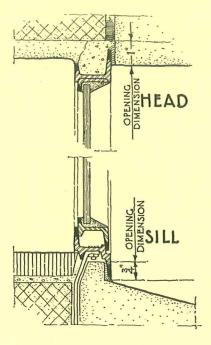
FENMARK PROJECTED COMBINATION DETAILS Plate No G-103



fenestra 1930 FENMARK PROJECTED BRICK INSTALLATION

Plate No G-104



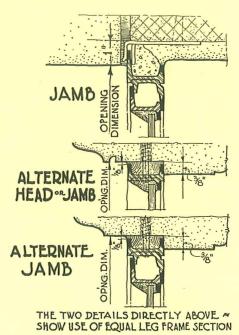


JOSEPH HILTON BLDG. NEW YORK CITY D. R. SWARTBURG A R C H I T E C T

NOTES

CAULKING BETWEEN WINDOW FRAME AND BUILDING CONSTRUCTION SHALL BE SUPPLIED AND APPLIED BY OTHERS.

SECTIONS ON THIS PLATE ARE "D","G","H"," B2"AND"A-2" SHOWN ON PLATES NUMBERS G-405, G-406

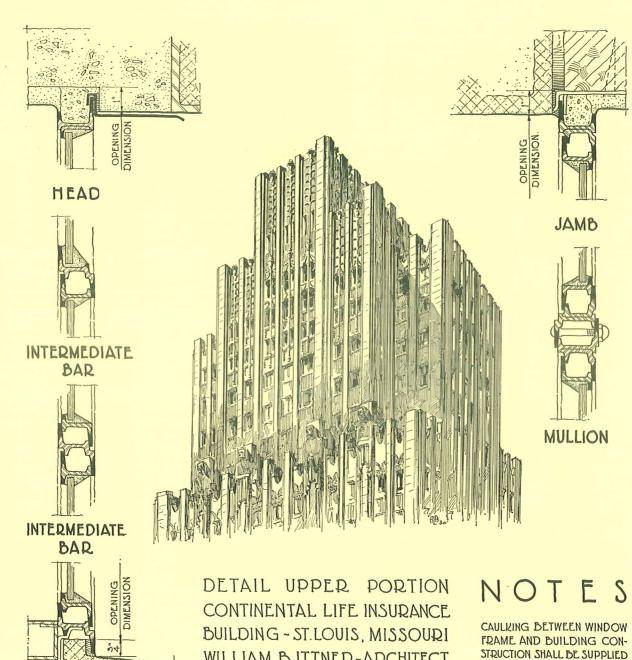


SCALE OF DETAILS - 3"=1-0"

fenestra 1930

FENMARK PROJECTED STONE INSTALLATION

Plate No G-105



WILLIAM B. ITTNER-ARCHITECT

SCALE OF DETAILS - 3"=1-0"

AND APPLIED BY OTHERS.

SECTIONS ON THIS PLATE ARE "D"-U-P-G-H" AND "J" AS SHOWN ON PLATES NUMBERS G-405, G-406

Tenestra

SILL

FENMARK PROJECTED TERRA COTTA INSTALLATION Plate No G-106

